



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,206	10/06/2000	Christian Benz	387778.0107	8643

21832 7590 08/08/2003
CUMMINGS AND LOCKWOOD
GRANITE SQUARE
700 STATE STREET
P O BOX 1960
NEW HAVEN, CT 06509-1960

EXAMINER

HESS, DANIEL A

ART UNIT	PAPER NUMBER
----------	--------------

2876

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,206

Applicant(s)

BENZ ET AL.

Examiner

Daniel A Hess

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/9/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9 and 11-30 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2876

DETAILED ACTION

Receipt is acknowledged of response received 6/9/2003, which has been placed in the file of record, and to which this action is a reply.

Remarks

The rejection below is similar to that of the prior Office Action, sent February 13, 2003. The various points raised in the reply of 6/9/2003 are addressed primarily in the *Response to Arguments* section below. ***But more importantly, the examiner notes that art was indeed found wherein a test strip is identified by a pattern of colored patches thereon (Howard, III, US 5,945,341). See in particular column 4, line 50 to column 5, lines 1-15 and figure 5. The examiner regrets overlooking this in previous actions. Hence, this action is made non-final.***

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later



Art Unit: 2876

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 4, 6, 9, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner (US 5,519,210), cited by the applicant in view of Howard III (US 5,945,341).

Re claim 1, 9 and 28: Berner shows (figure 1) a housing 1 having an 'intake slot' 3 (column 5, line 58). There is (figure 1, 33-36 and 61-62) a transport structure for transporting the sheet along transport path T (column 8, line 66 to column 9, line 15). There is a detecting means, shown in figure 2. A reflectance measuring lens 41, a light source 42, a photoelectric receiver 44, and a signal amplifier 45 are involved (column 4, lines 44-56). Spectral (color) data is obtained (column 5, 17-28). This data is converted to electrical signals (column 5, line 15). It is inherent that Berner includes controller of some kind to control a system having automatic transport, evaluation, and communication with an outside system. An evaluation unit 16 (see figure 2; column 5, line 16) is present. There is (abstract lines 11-12; column 3, line 33) automatic transport of the strips or sheets. Further, there is (column 5, lines 45-55) external communication with an outside system. There is further a densitometer (column 1, line 43) taking measurements in red, green and blue (column 3, line 30-35; column 1, lines 47-51). There are (column 3, line 16) electrical signals produced representing the data. A view of figure 1 makes clear that there is both a reflectance measuring lens 41 above the sample (column 4, line 48) and a transmission measuring lens 51 below the sample (column 5, line 14). The examiner did bring the applicant's attention to figure 1 in the earlier action.



Berner fails to teach coding on the strip for providing information about the strip wherein the coding is in the form of color fields.

Howard teaches (columns 4 and 5, especially column 5, lines 1-15, and figure 5) test strips providing information about the strip wherein the coding is in the form of color fields.

In view of Howard's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known coding is in the form of color fields because this provides information useful to the densitometer in a form that the densitometer is already designed to read, namely color.

Re claims 3 and 4: Berner shows (column 1, line 60) an adjustment structure for manually moving the strip in a transverse manner, thus achieving transverse motion relative to the densitometric and spectral measurement systems. This is done in order to achieve greater scanned area.

Berner fails to show automatic transverse motion of the densitometric and spectral measurement systems.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the densitometric and spectral measurement systems operate in a transverse direction because, as Berner notes (column 1, line 64) the manual method involves skill and patience and is therefore somewhat inconvenient and automatic movement of the sheets themselves carries a jamming risk, as sheets that are moved about can get stuck in various places. Moving the reading systems instead allows a simpler scan travel path.

Re claim 6: The densitometer of Berner is capable of performing transmission measurements (column 1, lines 42-45).

Art Unit: 2876

Re claim 30: Specifically red, blue and green are mentioned by Howard (column 4, lines 63-64).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Howard as applied to claim 1 above, in further view of Senn et al. (US 6,338,030). The teachings of Berner as modified by Howard as applied to claim 1 have been discussed above.

Berner as modified by Howard shows, as discussed above, that automatic transverse motion of sensing components is desirable. Berners further has (column 5, lines 7-15) a light source 42 that is used by the transmission measuring unit (figure 1, item 5). The light source shines light through the transparent original.

Berner as modified by Howard fails to show spectral and transmission measurements occurring through the same unit.

Berner as modified by Howard shows (column 2, line 65 to column 3, line 6) a single measuring unit that performs both transmission and spectral measurements.

In view of Senn, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have spectral and transmission measurements occurring in the same unit as taught by Senn because combining both sensing means in a single sensing device produces significant cost savings.

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Howard in view of Cargill et al. (US 5,118,183).

Art Unit: 2876

Berner as modified by Howard fails to show a white reference area. Cargill shows (column 6, line 35) a white reference patch. That patch can be used for calibration (column 6, lines 25-45).

In view of Cargill's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known white reference field for the purpose of calibration because it is desirable to have a standard densitometric reading to compare against.

Re claim 11: Berner as modified by Howard fails to show a barcode on the test strip, or a bar-code reader in the testing device.

Cargill shows (column 38, lines 9-25) a bar coding scheme on the test strip. To read this, the reader device must have a bar code reader. Since the system is automated, it must interact with the controller.

It is well known that barcodes are used to perform machine reading for product identification.

In view of Cargill's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known barcode on the strips and barcode reader as part of the reader device as taught by Cargill in the teachings of Berner as modified by Howard, using the barcode as an identification means because if the user manually enters the wrong code by mistake, improper reading of the test strips can result and errors can thereby be introduced into film processing.

Art Unit: 2876

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Howard as applied to claim 1 above in view of Gardner (US 5,929,413).

Re claims 12 and 13: Berner as modified by Howard fails to show a U-shaped transport path.

Gardner shows (figure 1) a console where all user interaction takes place on the same side, so the user does not have to walk during interaction with the console.

In view of Gardner's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known single-side user interaction as taught by Gardner in the teachings of Berner as modified by Howard because a user standing on one side to feed in originals may not want to walk to the other side to retrieve them. A U-shape to have the originals curve back to where the user is standing increases convenience.

Re claim 14: Some users may want originals returned directly to them as taught by Gardner while others may want the originals sent to an opposite side as taught by Berner, leading to disposal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include user choice of transport path.

Claims 15-16, 18 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Howard as applied to claim 1 above in view of Peterson et al. (US 5,402,361).



Re claims 15 and 18: Berner as modified by Howard fails to show bi-directional communication with an external computer in a serial manner, transfer of digital measuring data to the external computer, or configuration of the device through the external computer.

Peterson shows (column 26, line 38) bi-directional communication with an external system. It is done for the sake of quality control, such that data is sent to an external computer and controlling commands are sent in response (column 27, lines 37-56). Peterson shows serial transmission (column 11, line 35). Peterson also shows (column 26, lines 22-39) modem means for communication with an external controlling system.

In view of Peterson's teaching's, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known serial or modem-based bi-directional communication with an external computer in a serial manner, transfer of digital measuring data to the external computer, and configuration of the device through the external computer as taught by Peterson in the teachings of Berner as modified by Howard because this configuration allows control by complex software running on a powerful full-scale computer, which generally has more processing capability than a microcontroller.

Re claim 16: See claims 15 and 18. USB is an alternative but equivalent means to the serial communication with an external computer of claim 15.

Re claims 21 and 22: See claims 15 and 18. Email attachments are simply one of a variety of equivalent communications means across a network. The specific mode of network communication is not essential to the operation of the device.

Art Unit: 2876

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Howard in view of Peterson and Senn. The teachings of Berner as modified by Howard and Peterson have been discussed above.

Berner as modified by Howard and Peterson fails to specifically show a network interface.

Senn shows (column 3, line 57 to column 4, line 6) a network interface means for interacting with an external processor. Thus, a network interface is an alternative but equivalent means to the serial communication with an external computer of claim 15.

Claims 19 and 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Peterson and Senn, in view of Hu (US 6,301,104). The teachings of Berner as modified by Peterson and Senn have been discussed above.

Berner as modified by Peterson and Senn fails to show a means for modular connection between the network interface and controller.

Hu shows (figure 1; title; abstract) a motherboard that can act as a modular connection between a network interface and a controller (existing motherboard / computer configuration).

In view of Hu's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known means of forming a modular connection between a network interface and a controller as taught by Hu in the teachings of Berner as modified by Peterson and Senn because a modular means for connection between a network interface and a controller reduces and simplifies production. Similarly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute a

Art Unit: 2876

modem for the network interface because for the purposes of reasonably sized data transfer it is an alternative but equivalent means of connecting to an external computer.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner as modified by Howard and Peterson in view of Motamed (US 6,327,047). The teachings of Berner as modified by Peterson have been discussed above.

Berner as modified by Howard and Peterson fails to make mention of the IT8 format.

Motamed (column 1, lines 35-40) shows that the IT8 format is a standard format for this type of digital measuring data in the art.

In view of Motamed, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known IT8 format as taught by Motamed in the teachings of Berner as modified by Peterson because using an industry-standard file format increases compatibility with products produced by other firms.

Claims 25-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner (US 5,519,210) in view of Falk (US 5,760,913).

In Berner, there is shown (figure 1) a housing 1 having an 'intake slot' 3 (column 5, line 58). There is (figure 1, 33-36 and 61-62) a transport structure for transporting the sheet along transport path T (column 8, line 66 to column 9, line 15). There is a detecting means, shown in figure 2. A reflectance measuring lens 41, a light source 42, a photoelectric receiver 44, and a signal amplifier 45 are involved (column 4, lines 44-56). Spectral (color) data is obtained (column 5, 17-28). This data is converted to electrical signals (column 5, line 15). It is inherent

Art Unit: 2876

that Berner includes controller of some kind to control a system having automatic transport, evaluation, and communication with an outside system. An evaluation unit 16 (see figure 2; column 5, line 16) is present. There is (abstract lines 11-12; column 3, line 33) automatic transport of the strips or sheets. Further, there is (column 5, lines 45-55) external communication with an outside system. There is further a densitometer (column 1, line 43) taking measurements in red, green and blue (column 3, line 30-35; column 1, lines 47-51). There are (column 3, line 16) electrical signals produced representing the data. A view of figure 1 makes clear that there is both a reflectance measuring lens 41 above the sample (column 4, line 48) and a transmission measuring lens 51 below the sample (column 5, line 14).

Berner fails to show that the test strip contains encoded information that is used to convey what type of test strip it is, or what the orientation of the test strip is.

Falk shows (column 5, lines 30-45, especially lines 38-41) that there is a special key on a test strip that conveys the type of test strip (in this case the ordering of the colors). Falk further shows (column 8, lines 1-14) that there are registration marks to establish the orientation of the strip in the reader (column 8, line 5). See also figure 5, 502 to note these various registration marks.

In view of Falk's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known coding on the test strip that is employed to generate a unique strip because as Falk notes, the varied placement of color patches 'minimizes the undesirable effects of density variation across a printed page' (column 5, lines 34-36). It further would have been obvious to employ orientation markings as per Falk in

Art Unit: 2876

the teachings of Berner because if the system can distinguish among different orientations, the chances for an error caused by the user are reduced.

Re claim 27 in particular: Cargill shows (column 38, lines 9-25) a bar coding scheme on the test strip. To read this, the reader device must have a bar code reader. Since the system is automated, it must interact with the controller.

In view of Cargill's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known barcode on the strips and barcode reader as part of the reader device as taught by Cargill in the teachings of Berner, using the barcode as an identification means because if the user manually enters the wrong code by mistake, improper reading of the test strips can result and errors can thereby be introduced into film processing.

Response to Arguments / Amendments

The applicant has made several arguments in the previous reply. These are discussed below:

Firstly, regarding the applicant's claim that a code for differentiating a front edge from a rear edge in the original is not present in Falk, the examiner disagrees. The applicant states, "registration marks 502 provide no information relevant to differentiating the front and rear edges..." However, in figure 5 of Falk, one can view calibration markings 502, wherein there are three markings 502 along the top and two along the bottom, clearly



setting the top and bottom apart. Such a distinguishing aspect is also present on the right and left sides.

Secondly, the applicant suggests that Falk fails to provide information about the production unit that was used. However, one can interpret the words “information about the production unit” several ways. As Falk makes clear (column 5, 30-50) the test strip contains information that includes a particular arrangement key that is used to place color patches. In a broad sense, this is information about the production unit that was used; specifically this information indicates what arrangement key the production unit was using when the test strip was created.

Thirdly, regarding the applicant’s contention that the codification claimed in claim 27 is not rendered obvious by the art of record, the examiner notes the teaching of Cargill (barcodes) should be considered in combination with the above teachings of Falk, which provide information on the production unit used.

Allowable Subject Matter

1. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2876

The prior art of fails to teach a test strip of the type claimed, wherein are employed color patches in a coding scheme on the test strip to indicate position. Color patches are only used, as far as the examiner can find, to determine identity of the test patch.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel A Hess whose telephone number is (703) 305-3841. The examiner can normally be reached on 8:00 AM - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G Lee can be reached on (703) 305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



DH
July 18, 2003

Daniel A Hess
Examiner
Art Unit 2876



**THIEN M. LE
PRIMARY EXAMINER**